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Re: Eric Williams

Inspection Report

Background

Eric Williams was injured on October 6, 1999 while working for the City of Baltimore. Mr. Williams climbed into the hopper of an asphalt truck to unclog it of hardened asphalt. The asphalt had formed a hardened crust slightly above the agitator such that the agitator was able to run, but no asphalt was coming out of the truck's chute. Mr. Williams was using his feet to break up the asphalt, when his pants leg was snagged by the rotating agitator, pulling him down such that he sustained injuries.

The following materials were reviewed in connection with this inspection:

- a. MOSH Report file, inspection number 302886395;
- b. Manual - Pro-Patch Pothole Patcher, H.D. Industries, Inc.;
- c. ANSI Z535.4 - 1991, American National Standard for Product Safety Signs and Labels;
- d. OSHA Regulations (Standards - 29 CFR) The control of hazardous energy (lockout/tagout). - 1910.147

My Curriculum Vitae, Fee Schedule and list of publications during the past 10 years is attached.



Inspection

I inspected the subject Pothole Patcher Truck on November 19, 1999 at the Westport Yard, 2339 Nevada Street in Baltimore, Maryland. Photos 1 and 2 show the subject truck. The Pothole Patcher Assembly is manufactured by H.D. Industries, Model No. 415-10, Serial No. 0277-CCW. Photos 3 and 4 show the Truck VIN sticker and odometer. The truck is a 1995 Ford F Series.

Photo 5 shows the area on the right side of the truck, where there is a ladder and platform where an operator may climb onto the asphalt hopper. Photo 6 shows the hydraulic control panel, located on the rear of the truck, used to start and stop the agitator.

Photo 7 is a view inside the asphalt hopper, showing the conveyor and agitator. Photos 8 and 9 show warning labels on the side and rear of the truck. Photo 10 shows the H.D. Industries label.

When a person enters the hopper, there is no ladder, foothold, or horizontal surface on which to stand. The front and rear walls are vertical, and the side walls are sloped at approximately 45 degrees. Once inside the hopper, there is no provision for locking out the agitator or conveyor.

OSHA Lockout/Tagout Regulations

OSHA Standard 1910.147, The control of hazardous energy, is an example of industry standards requiring provision for lockout of hazardous energy sources, in order to protect workers from being injured by moving parts while maintaining or servicing equipment. The scope follows:

"(a)(1)(i)

This standard covers the servicing and maintenance of machines and equipment in which the "unexpected" energization or start up of the machines or equipment, or release of stored energy could cause injury to employees. This standard establishes minimum performance requirements for the control of such hazardous energy."

"(a)(2)(ii)(B)

An employee is required to place any part of his or her body into an area on a machine or piece of equipment where work is actually performed upon the material being processed (point of operation) or where an associated danger zone exists during a machine operating cycle."

As applied to the subject pothole patcher, this standard requires that a shut-off control must be located within reach of an operator who must enter the asphalt hopper. This safety feature would allow an operator to insure that the rotating equipment is turned off and cannot be re-started without his knowledge. Such

lockout/tagout controls are not installed on the subject equipment, creating a hazardous condition and rendering the equipment non-compliant with this standard. A copy of the standard is attached.

ANSI Warning Standard

ANSI Z535.4 - 1991 (American National Standard for Product Safety Signs and Labels) is an example of industry standards requiring labeling of equipment that may present hazards to people. The scope follows:

"2.1 Scope

This standard sets forth performance requirements for the design, application, use, and placement of permanently affixed safety signs and labels intended to identify potential hazards for persons using, operating, servicing, or in proximity to, a wide variety of products. A product safety sign or label should alert persons to a specific hazard, the degree or level of hazard seriousness, the probable consequence of involvement with the hazard, and how the hazard can be avoided."

The warning signs permanently affixed to the truck read as follows:

**"DANGER
ROTATING EQUIPMENT
KEEP HANDS AND BODY AWAY
FROM INSIDE ASPHALT HOPPER,
STOP MACHINE AND CUT
POWER SUPPLY BEFORE
CLEANING, OILING OR REPAIRING"**

These warning signs fail to warn of any specific hazard, the degree or level of hazard seriousness, or the probable consequence of involvement with the hazard. A better warning message appears inside the Pro-Patch manual, which reads as follows:

"WARNING: ROTATING SHAFTS CAN BE DANGEROUS. YOU CAN SNAG CLOTHES, SKIN, HAIR, HANDS, FEET, ETC. THIS CAN CAUSE SERIOUS INJURY OR DEATH. TO AVOID SERIOUS INJURY OR DEATH FROM A ROTATING SHAFT: DISENGAGE THE PTO AND TURN OFF THE VEHICLE ENGINE, REMOVE THE KEYS FROM THE IGNITION, LOCK THE TRUCK DOORS, PLACE THE KEY IN YOUR POCKET BEFORE ENTERING THE ASPHALT HOPPER."

Industry standards require such warnings to be permanently affixed to the equipment, and it is recognized in the industry that warnings placed in operating

manuals or brochures are not likely to be effective, because such manuals may not be available to workers in the field. A copy of the ANSI warning standard is attached.

Analysis

The truck's hopper occasionally gets clogged with asphalt. Since the hopper sidewalls are 63 inches high, an operator must climb inside the hopper to un-clog the asphalt. With no provision for standing, an operator entering the hopper must try to stand on a slippery, sloped surface. With no provision for lockout/tagout, the operator is at risk of becoming injured by the rotating agitator and/or conveyor inside the hopper.

Compounding the hazard, the warning signs on this equipment fail to adequately warn of the hazard or the measures one must take to avoid the hazard. These shortcomings could have been corrected by adequate warnings, proper lockout/tagout controls located within reach of a person inside the hopper, and a safe place to stand while correcting foreseeable asphalt clogs.

Conclusions

The following opinions are expressed to a reasonable degree of engineering certainty:

1. The subject pothole patcher is defective in design because it lacks industry-standard lockout/tagout controls within reach of the point of operation;
2. The subject pothole patcher is defective in design because it lacks adequate warnings;
3. The subject pothole patcher is defective in design because it does not provide a safe place for an operator to stand while performing foreseeable tasks inside the hopper;
4. The subject pothole patcher is non-compliant with industry standards for lockout/tagout controls;
5. The subject pothole patcher is non-compliant with industry standards for warnings, and;
6. These defects and violations of industry standards caused or contributed to Mr. Williams' accident.

Although my report is based upon the currently available record produced in connection with this litigation and I am in a position to render my opinions at this time based upon the documents and information currently available, discovery has not yet been completed. I expect to review, evaluate, and analyze any additional documents and information gathered in the course of discovery. Accordingly, in view of the on-going status of discovery, I reserve the right to revise or expand my opinions to reflect any additional opinions I may formulate based upon newly acquired information or arising from reflection and reconsideration of the opinions based upon positions taken by the defendant's expert witnesses and upon further information, including documentary and testimonial evidence introduced at trial.

Respectfully submitted,


Michael D. Leshner, P.E.

